/339 cont./

16. Knowledge of Arithmetic, Astronomy, and Geography.

802 Arithmetic. Counting is done on the hands and feet, and, indeed, one starts with the thumb of the right hand, then goes to the left hand, and treats the feet in the same manner. Sometimes they also use small stones for counting. They count traveling days by means of notches in a small piece of wood or in the edge of the boat.

The system of counting is that of the 5 (see the word list, IX: "Number Words" /untranslated; see the foreign text, p. 452, "X. Zahlworte"/. The striking thing is: the double designation for 5; an additional, peculiar second word, lẽŭl(j)õ, for 6, with which 7 is then formed as hand-lẽŭl(j)õ; the additional peculiar syllables: lăhŭ in the case of 10, lẽdŏ in the case of 11, 15, 16, 17, (18?).

Most of them counted unhesitatingly to 6; from there on they were almost all uncertain. Only a few were able to count to 10 and hardly at all to 20; I was also given different designations for these large numbers. There was no number to be obtained beyond 20.

In expressions with number words, the following was appended: one gun-barrel, djĩŏ-ẓŏhŏdĭ; two gun-barrels, djĩõ-ĭnătjĭ; two hats, šăpã(ŏ)ĭnătĭ.

805 Astronomical. They know that the year has 13 full moons. They calculate the year from one fall of the water to the other. In this connection they distinguish two seasons: the dry season (wõũlă), when they live on the sandbanks, and the rainy season (bĩŭ), when they live on the high banks.

They divide up the day according to the position of the sun. Time designations are made by pointing with the hand to the height of the sun at that particular time.

821 They apparently distinguish between five phases of the moon; for these I was given the following names by one Indian: first quarter, ãhăndŭ lõĭtă; not quite full moon, ãhăndŭ-lălãlĭ; full moon, djũlũm lăălălĭ; last quarter, ãhăndŭ-ălŭlănă; new